REMARKS

Applicants have amended their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants have amended claim 1 to recite that the raised portion is such that during the friction stir welding, material of this raised portion fills any gaps, between the member and another member to be welded to this member, which exist when the member abuts the another member. Claim 2 has been similarly amended, with respect to the raised portion projecting to an outer side in a thickness direction of the first plate. Claim 3 has been amended to recite that at an end portion of the second plate, the hollow frame member has a "further" raised portion, and that this further raised portion is such that during the friction stir welding, material of this further raised portion fills any gaps, between the hollow frame member and the another frame member to be welded to the hollow frame member, which exist when the hollow frame member and the another frame member abut each other. Note, e.g., Fig. 7 of Applicants' original disclosure.

In addition, Applicants are adding new claims 4-15 to the application. Claims 4 and 5, dependent respectively on claims 3 and 2, recite that the another member is another hollow frame member. Claims 6 and 10, dependent respectively on claims 3 and 2, recite that plates of the hollow frame member have exposed outer faces, with the raised portion (or the raised portion and the further raised portion) projecting beyond the exposed outer faces of the plates in the thickness direction; and claims 7, 11 and 14, dependent respectively on claims 6, 10 and 1, recite that the exposed outer face (or one side face) is adapted to be exposed during the friction stir welding. Claims 8, 9, 12, 13 and 15, dependent respectively on claims 6, 3, 10, 2 and 1, further define the thickness direction, as a direction perpendicular to the exposed outer faces/first plate/one side face.

Applicants respectfully submit that all of the claims presented for consideration by the Examiner patentably distinguish over the teachings of the references applied by the Examiner in rejecting claims in the Office Action mailed November 2, 2004, that is, the teachings of International (PCT) Publication No. WO 95/26254 (Midling, et al.) and of Japanese Patent Document No. 2-246863 (Mochizuki, et al.), under the provisions of 35 USC 102 and 35 USC 103.

It is respectfully submitted that these references as applied by the Examiner would have neither taught nor would have suggested such member, or such hollow frame member, as in the present claims, having the raised portion projecting to an outer side in a thickness direction and which is a portion adapted to have a rotary tool inserted therein so as to carry out a friction stir welding, and wherein the raised portion is such that during the friction stir welding, material of the raised portion fills any gaps, between the member and another member to be welded to the member (or between a first plate of the hollow frame member and another member to welded thereto), which exist when the (hollow frame) member abuts the another member. See claims 1 and 2.

In addition, it is respectfully submitted that these references would have neither disclosed nor would have suggested such a hollow frame member as in the present claims, having the above-mentioned raised portion, and wherein at an end portion of the second plate the hollow frame member has a further raised portion, which projects to an outer side in a thickness direction of the second plate, this further raised portion being a portion adapted to have a rotary tool inserted therein so as to carry out a friction stir welding, and this further raised portion being such that during the friction stir welding, material of the further raised portion fills any gaps, between the hollow frame member and another member to be welded to the hollow frame member, which exist when the members abut each other. See claim 3.

Furthermore, it is respectfully submitted that these applied references would have neither disclosed nor would have suggested the other features of the present invention as in the remaining, dependent claims, having features as discussed previously in connection with the independent claims and dependent claim 3, and further including (but not limited to) wherein the another member to which the hollow frame member is adapted to be welded is another hollow frame member (see claims 4 and 5); and/or wherein the raised portion (or raised portion and further raised portion) projects beyond exposed outer faces of plates of the hollow frame member, in the thickness direction (see claims 6 and 10), the exposed outer face (faces) being exposed during the friction stir welding (see claims 7, 11 and 14); and/or the more specific definition of the thickness direction, set forth in claims 8, 9, 12, 13 and 15.

As described, for example, in the last full paragraph on page 9 of Applicants' specification, by including the raised portion, if there is a gap between the members, e.g., raised portions of the members, before welding, the gap is filled with the material of the raised portions, improving the appearance and reducing the amount of putty required. That is, sunken portions or recesses in the weld bead, due to material filling the gaps, can be avoided, thereby improving the product formed.

Midling, et al. discloses a technique of friction stir welding, wherein the non-consumable probe used in the friction stir welding has a bottom part 23 (shoulder) (see Fig. 3) exhibiting a concave surface, while the pin 24 of the probe has an outer surface provided with alternately protruding and recessed parts along its longitudinal axis. See the last full paragraph on page 3. Note also the last full paragraph on page 4. In Figs. 5a-e of this published patent document are displayed schematically in fragmentary perspective views, different types of welds provided by the method and probe including, in Fig. 5c, an overlap weld seam.

It is respectfully submitted that Midling, et al. would have neither taught nor would have suggested such frame member as in the present claims, including the raised portion as defined therein, and in particular wherein such raised portion is provided such that material of this raised portion fills gaps, as defined in the present claims. Fig. 5c of Midling, et al. shows overlapping surfaces, with the overlapping, extending surfaces being parallel to faces of the members being welded; and it is respectfully submitted that this reference would have neither taught nor would have suggested, and would in fact have taught away from, a raised portion which projects to a thickness direction of the member, more particularly wherein said raised portion projects beyond the exposed outer faces in the thickness direction, especially where this thickness direction is perpendicular to specified components of the member, and advantages thereof as discussed in the foregoing.

Mochizuki, et al. discloses a vehicular body structure constructed by assembling an appropriate number of window forming materials and wainscot panel forming materials as the side structure, roof forming material and pole plate forming material as the roof structure, and floor forming material and side beam forming material has an underframe respectively as occasion demands. This patent document discloses that among these components, the window part forming member is provided protrusively with a receiving piece for supporting the upper or lower edge of a window frame, and that side edges of the forming members are placed facingly and their inner and outer parts bonded by welding.

Midling, et al. has been previously discussed.

Even assuming, arguendo, that, the teachings of Mochizuki, et al. and Midling, et al. were properly combinable, such combined teachings would have neither disclosed nor would have suggested the raised portion (or raised portion and further raised portion) as in the present claims, including wherein during the friction stir

welding material thereof fills any gaps which exist when the members being welded abut each other, and advantages of this structure.

The contention by the Examiner on page 3 of the Office Action mailed November 2, 2004, that Mochizuki, et al. discloses a raised portion provided on an end portion of the first plate, the Examiner referring to Item 27f in Fig. 2, is respectfully traversed. Item 27f in Fig. 2 of Mochizuki, et al. represents a member extending substantially parallel to outer exposed faces of the structure in a direction perpendicular to the thickness direction of the plates/member. It is respectfully submitted that this disclosure would have taught away from the raised portions as in the present claims and would have neither taught nor would have suggested the advantages achieved by the present invention.

In view of the foregoing comments and amendments, reconsideration and allowance of all claims presently in the application are respectfully requested.

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 503.35255VS4).

Respectfully submitted,
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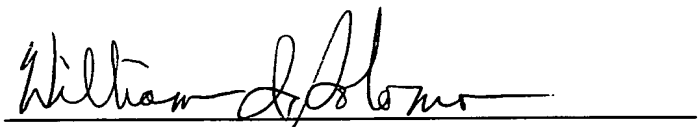

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April 4, 2005